

WHAT IS CLAIMED IS:

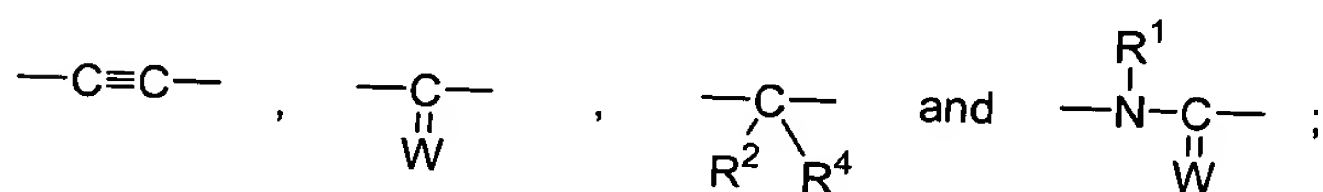
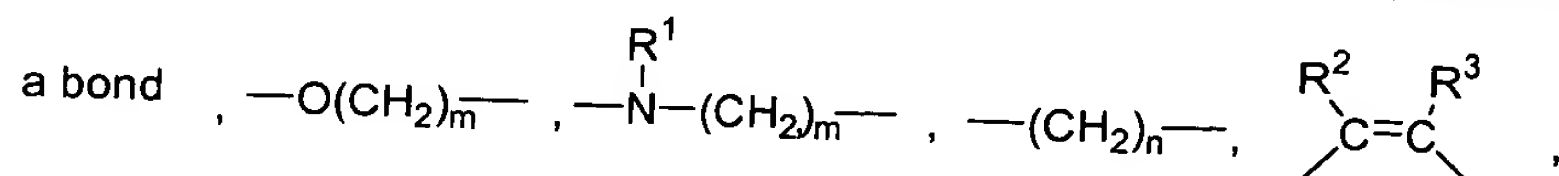
1. A compound having the formula:



or a pharmaceutically acceptable salt thereof, wherein

A and B are each members independently selected from the group consisting of substituted and unsubstituted aryl and substituted and unsubstituted heteroaryl;

X and Y are each members independently selected from the group consisting of:



with the proviso that at least one of X or Y is a bond, and wherein

the subscript m is 0, 1 or 2;

the subscript n is 1 or 2;

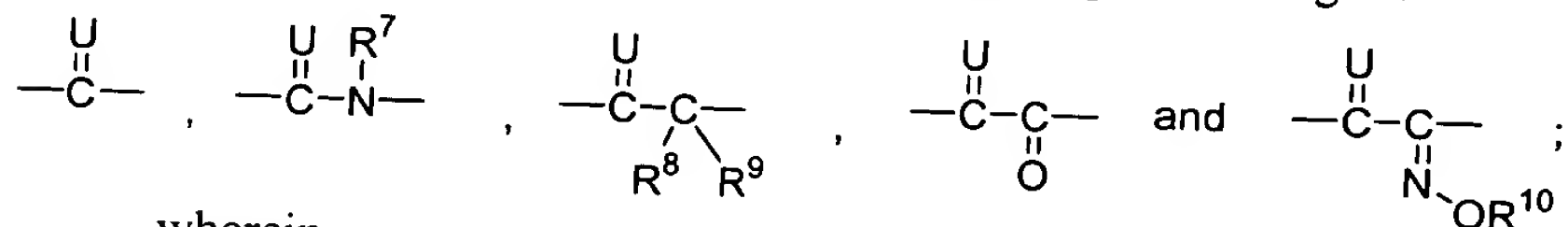
W is a member selected from the group consisting of O, N-OR⁵, N-NR¹R², N-NR¹C(O)R⁶ and N-OC(O)R⁶;

R¹, R², R³, and R⁵ are each members independently selected from the group consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and heteroaryl(C₁-C₆)alkyl;

R⁴ is a member selected from the group consisting of H, OH, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino, (C₁-C₆)acylamino, and (C₁-C₈)heteroalkyl; and

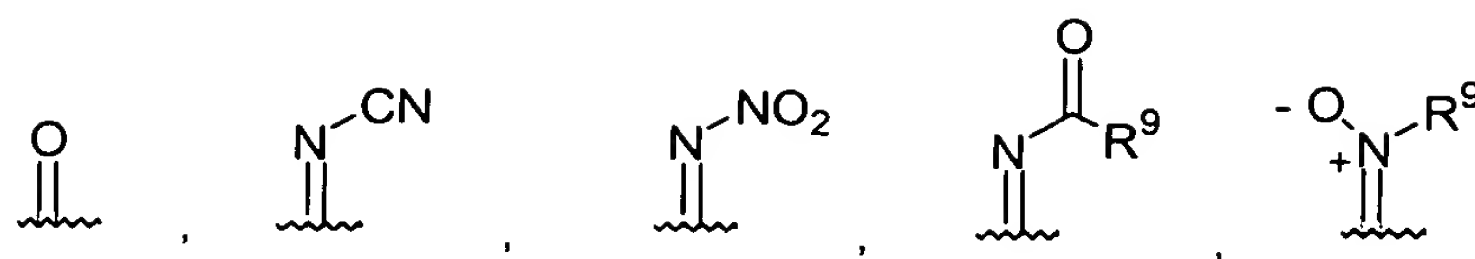
R⁶ is a member selected from the group consisting of H, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino and (C₁-C₈)heteroalkyl; and

M is a divalent linking group selected from the group consisting of:



wherein

U is a member selected from the group consisting of:



R^7 and R^8 are each independently members selected from the group

consisting of H, OH, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino and di(C₁-C₆)alkylamino;

R^9 is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and heteroaryl(C₁-C₆)alkyl;

R^{10} is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl and heteroaryl(C₁-C₆)alkyl; and

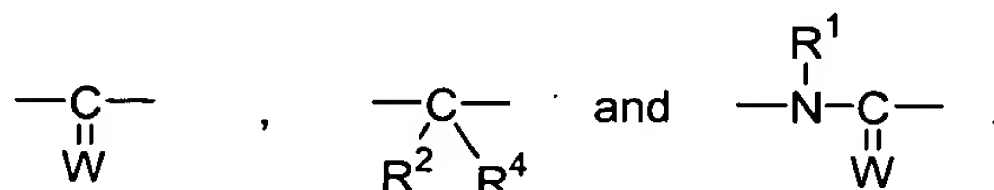
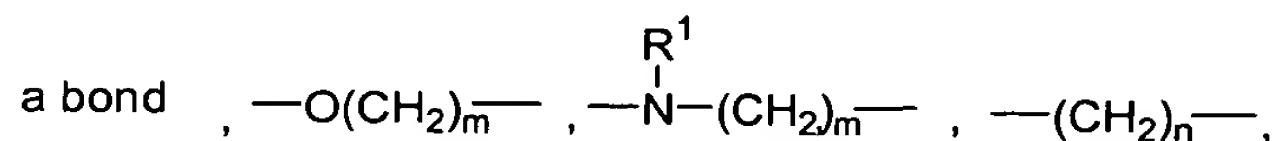
R^{11} and R^{12} are members independently selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl, C(O) R^{14} , C(O)OR¹⁴, C(O)-NR¹⁴R¹⁵, S(O)₂R¹³ and S(O)₂NR¹⁴R¹⁵;

wherein

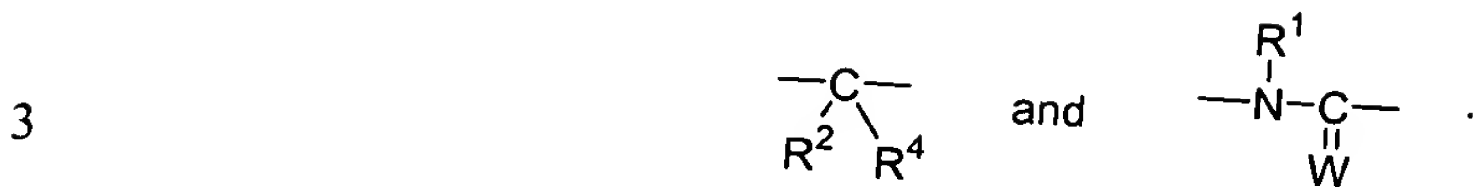
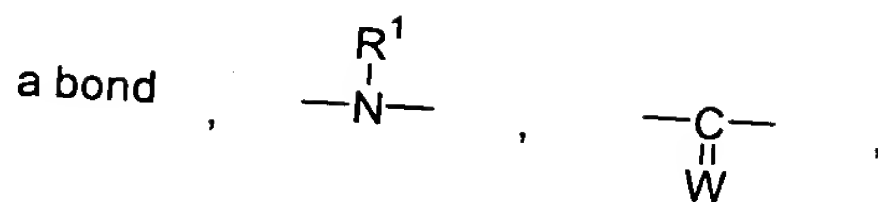
R^{13} is a member selected from the group consisting of (C₁-C₆)alkyl, (C₁-C₆)heteroalkyl, phenyl and substituted phenyl; and

R^{14} and R^{15} are each members independently selected from the group consisting of H, (C₁-C₆)alkyl and (C₁-C₆)heteroalkyl.

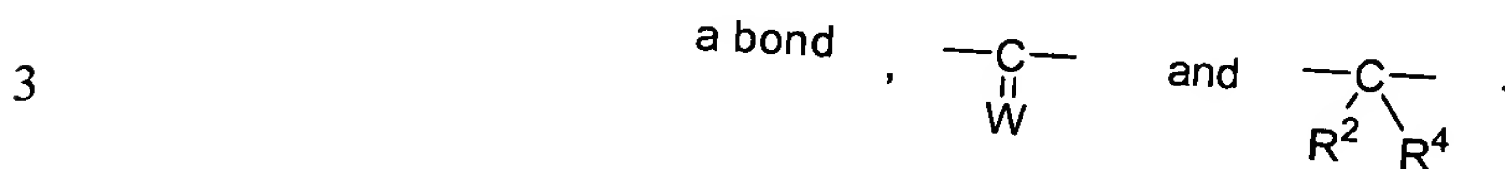
2. A compound of claim 1, wherein X and Y are independently selected from the group consisting of:



3. A compound of claim 1, wherein X and Y are each independently selected from the group consisting of:

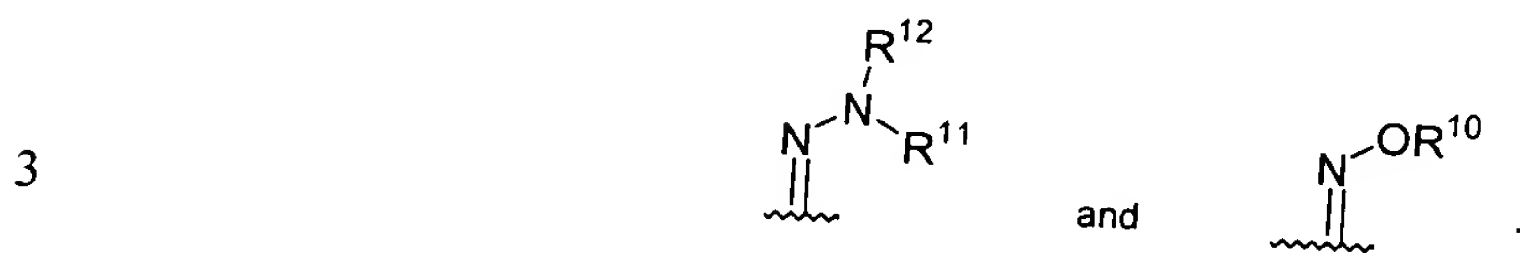
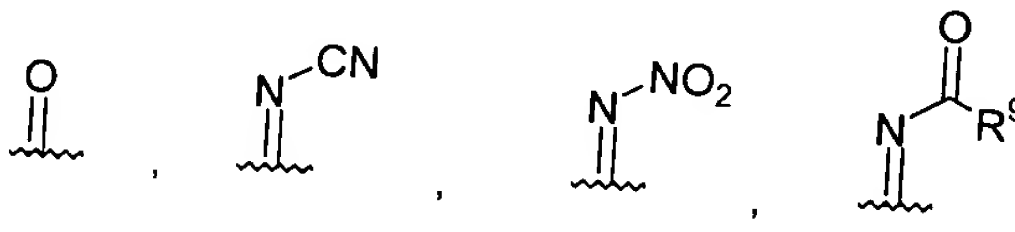


- 1 4. A compound of claim 1, wherein X and Y are each independently
2 selected from the group consisting of:

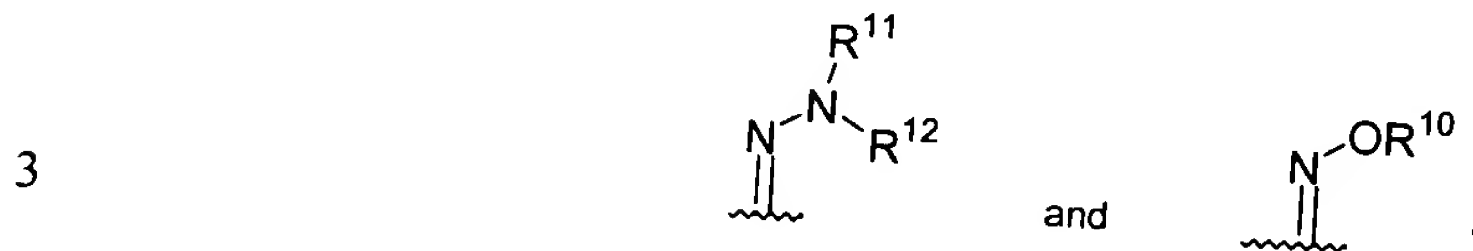


- 1 5. A compound of claim 1, wherein M is $\text{—}\overset{\text{U}}{\underset{\text{C}}{\parallel}}\text{—}\overset{\text{R}^7}{\text{N}}\text{—}$.

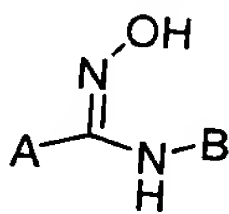
- 1 6. A compound of claim 1, wherein X and Y are each a bond, and M
2 is $\text{—}\overset{\text{U}}{\underset{\text{C}}{\parallel}}\text{—}\overset{\text{R}^7}{\text{N}}\text{—}$, wherein U is selected from the group consisting of



- 1 7. A compound of claim 6, wherein U is selected from the group
2 consisting of



- 1 8. A compound of claim 1, said compound having the formula:

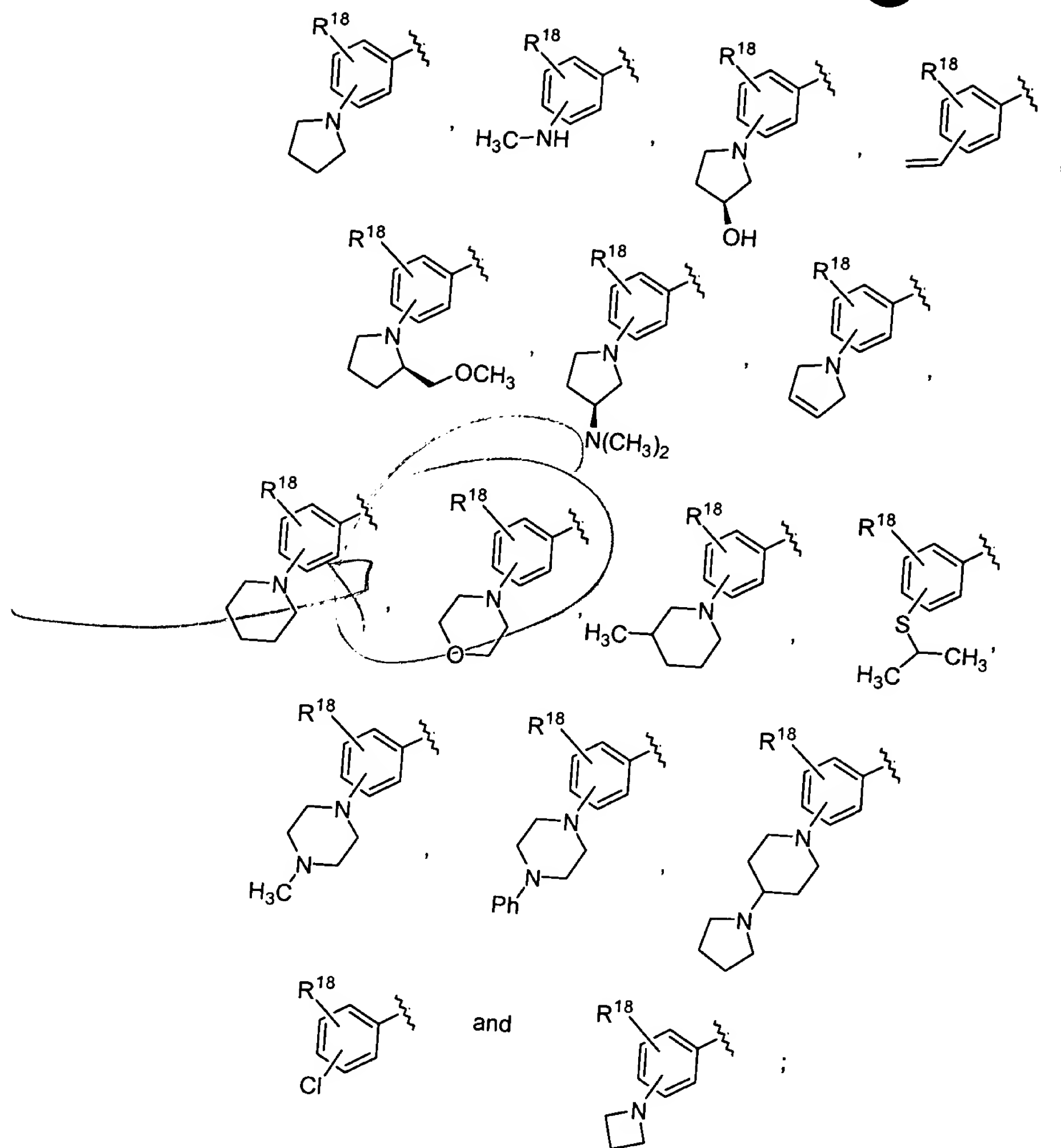


1 9. A compound of claim 8, wherein A is a phenyl group substituted
2 with from one to three substituents selected from the group consisting of (C₁-C₄)alkyl,
3 (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, nitro, phenyl, naphthyl,
4 pyrrolyl, pyrazolyl and -NR¹⁶R¹⁷ wherein R¹⁶ and R¹⁷ are independently selected from
5 the group consisting of hydrogen, (C₁-C₈)alkyl and (C₁-C₈)heteroalkyl or are combined
6 with the nitrogen atom to which each is attached to form a four-, five-, six- or seven-
7 membered ring optionally having additional heteroatoms as ring members and optionally
8 having additional substituents selected from the group consisting of (C₁-C₈)alkyl, (C₁-
9 C₈)heteroalkyl and phenyl.

1 10. A compound of claim 8, wherein B is a phenyl group substituted
2 with from one to three substituents selected from the group consisting of (C₁-C₄)alkyl,
3 (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, phenyl
4 and phenoxy.

1 11. A compound of claim 8, wherein A is a phenyl group substituted
2 with from one to three substituents selected from the group consisting of (C₁-C₄)alkyl,
3 (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen and -NR¹⁶R¹⁷ wherein R¹⁶
4 and R¹⁷ are independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl
5 and (C₁-C₈)heteroalkyl or are combined with the nitrogen atom to which each is attached
6 to form a four-, five-, six- or seven-membered ring optionally having additional
7 heteroatoms as ring members and optionally having additional substituents selected from
8 the group consisting of (C₁-C₈)alkyl, (C₁-C₈)heteroalkyl and phenyl, and B is a phenyl
9 group substituted with from one to three substituents selected from the group consisting
10 of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy,
11 halogen, phenyl and phenoxy.

1 12. A compound of claim 8, wherein A is selected from the group
2 consisting of substituted or unsubstituted thienyl, substituted or unsubstituted furanyl,
3 substituted or unsubstituted indolyl, substituted or unsubstituted benzothienyl, substituted
4 or unsubstituted benzothienyl, and radicals of the formulae:



5
6
7 wherein R^{18} is a member selected from the group consisting of (C_1 -
8 C_4)alkyl, (C_1 - C_4)alkoxy, (C_1 - C_4)heteroalkyl, (C_1 - C_4)haloalkyl, (C_1 - C_4)haloalkoxy and
halogen.

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2 13. A compound of claim 8, wherein A is selected from the group
3 consisting of substituted or unsubstituted benzofuranyl, substituted or unsubstituted
4 benzothienyl, substituted or unsubstituted indolyl, substituted or unsubstituted
5 benzimidazolyl, substituted or unsubstituted benzthiazolyl and substituted or
unsubstituted benzoxazolyl.

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2 14. A method of reducing bacterial growth on a surface, said method
comprising contacting said surface with a compound of claim 1.

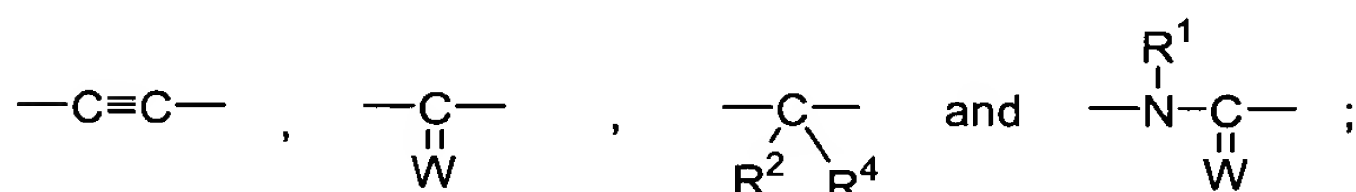
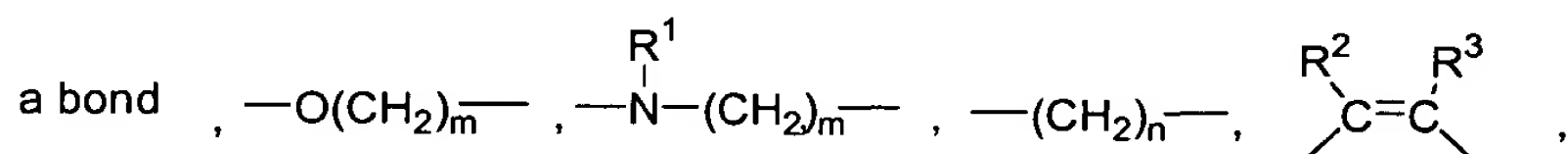
1 15. A method of treating a bacterial infection comprising contacting a
2 subject in need of such treatment with an effective amount of a compound having the
3 formula:



5 or a pharmaceutically acceptable salt thereof, wherein

6 A and B are each members independently selected from the group consisting of
7 substituted and unsubstituted aryl and substituted and unsubstituted
8 heteroaryl;

9 X and Y are each members independently selected from the group consisting of:



11 with the proviso that at least one of X or Y is a bond, and wherein

12 the subscript m is 0, 1 or 2;

13 the subscript n is 1 or 2;

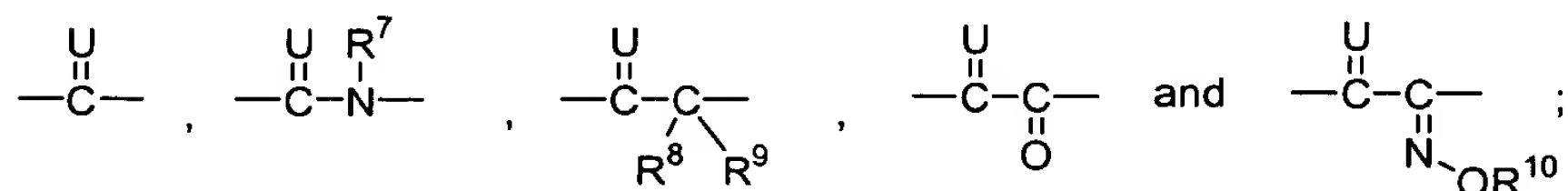
14 W is a member selected from the group consisting of O, N-OR⁵, N-NR¹R²,
15 N-NR¹C(O)R⁶ and N-OC(O)R⁶;

16 R¹, R², R³ and R⁵ are each members independently selected from the group
17 consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and
18 heteroaryl(C₁-C₆)alkyl;

19 R⁴ is a member selected from the group consisting of H, OH, (C₁-C₆)alkyl,
20 (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino,
21 (C₁-C₆)acylamino, and (C₁-C₈)heteroalkyl; and

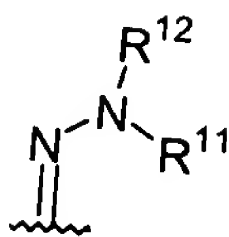
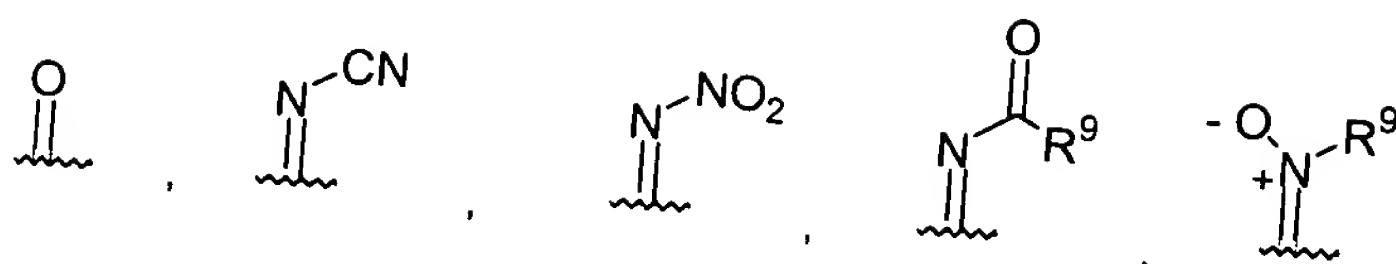
22 R⁶ is a member selected from the group consisting of H, (C₁-C₆)alkyl, (C₁-
23 C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino and
24 (C₁-C₈)heteroalkyl; and

25 M is a divalent linking group selected from the group consisting of:

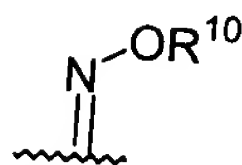


27 wherein

28 U is a member selected from the group consisting of:



and



R^7 and R^8 are each members independently selected from the group consisting of H, OH, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino and di(C₁-C₆)alkylamino;

R^9 is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and heteroaryl(C₁-C₆)alkyl;

R^{10} is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl and heteroaryl(C₁-C₆)alkyl; and

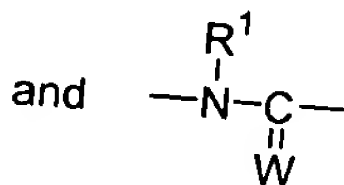
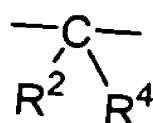
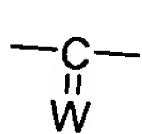
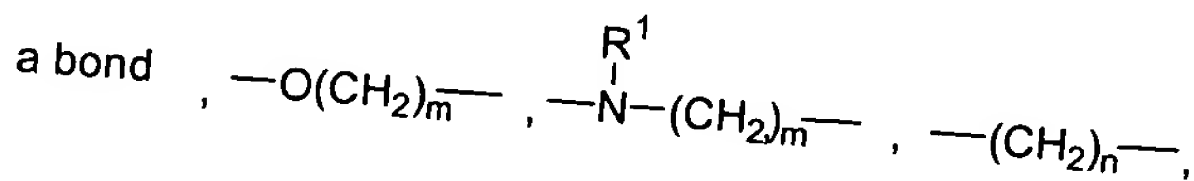
R^{11} and R^{12} are members independently selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl, C(O) R^{14} , C(O)OR¹⁴, C(O)-NR¹⁴R¹⁵, S(O)₂R¹³ and S(O)₂NR¹⁴R¹⁵;

wherein

R^{13} is a member selected from the group consisting of (C₁-C₆)alkyl, (C₁-C₆)heteroalkyl, phenyl and substituted phenyl; and

R^{14} and R^{15} are each members independently selected from the group consisting of H, (C₁-C₆)alkyl and (C₁-C₆)heteroalkyl.

16. A method in accordance with claim 15, wherein X and Y are independently selected from the group consisting of:



17. A method in accordance with claim 15, wherein X and Y are each independently selected from the group consisting of:

a bond, $\text{—}\overset{\text{W}}{\underset{\text{||}}{\text{C}}}\text{—}$ and $\text{—}\overset{\text{R}^2}{\underset{\text{R}^4}{\text{C}}}\text{—}$.

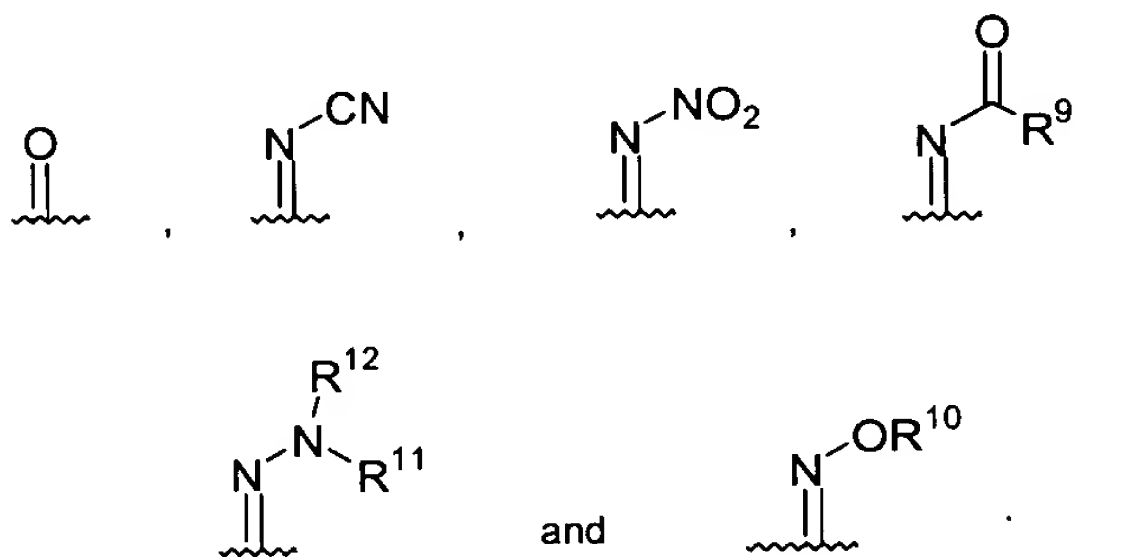
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18. A method in accordance with claim 15, wherein X and Y are each a

2

bond, and M is $\text{—}\overset{\text{U}}{\underset{\text{||}}{\text{C}}}\text{—}\overset{\text{R}^7}{\text{N}}\text{—}$, wherein U is selected from the group consisting of



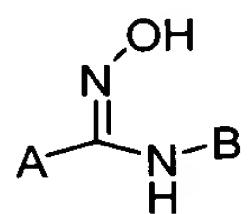
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19. A method in accordance with claim 15, said compound having the

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formula:



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20. A method in accordance with claim 19, wherein A is a phenyl

2

group substituted with from one to three substituents selected from the group consisting

3

of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, nitro,

4

phenyl, naphthyl, pyrrolyl, pyrazolyl and $\text{—NR}^{16}\text{R}^{17}$ wherein R¹⁶ and R¹⁷ are

5

independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl and (C₁-

6

C₈)heteroalkyl or are combined with the nitrogen atom to which each is attached to form

7

a four-, five-, six- or seven-membered ring optionally having additional heteroatoms as

8

ring members and optionally having additional substituents selected from the group

9

consisting of (C₁-C₈)alkyl, (C₁-C₈)heteroalkyl and phenyl.

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21. A method in accordance with claim 19, wherein B is a phenyl

2

group substituted with from one to three substituents selected from the group consisting

3

of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy,

4

halogen, phenyl and phenoxy.

1

22. A method in accordance with claim 19, wherein A is a phenyl

2

group substituted with from one to three substituents selected from the group consisting

3 of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen and -
4 NR¹⁶R¹⁷ wherein R¹⁶ and R¹⁷ are independently selected from the group consisting of
5 hydrogen, (C₁-C₈)alkyl and (C₁-C₈)heteroalkyl or are combined with the nitrogen atom to
6 which each is attached to form a four-, five-, six- or seven-membered ring optionally
7 having additional heteroatoms as ring members and optionally having additional
8 substituents selected from the group consisting of (C₁-C₈)alkyl, (C₁-C₈)heteroalkyl and
9 phenyl, and B is a phenyl group substituted with from one to three substituents selected
10 from the group consisting of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-
11 C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, phenyl and phenoxy.

1 23. A method in accordance with claim 19, wherein A is selected from
2 the group consisting of substituted or unsubstituted thienyl, substituted or unsubstituted
3 furanyl, substituted or unsubstituted indolyl, substituted or unsubstituted benzothienyl,
4 substituted or unsubstituted benzothienyl, and radicals of the formulae:



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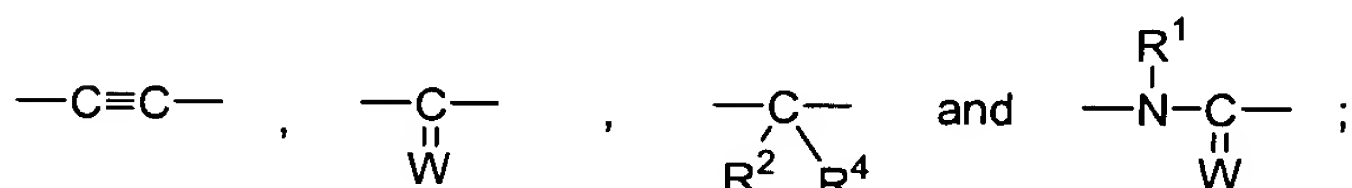
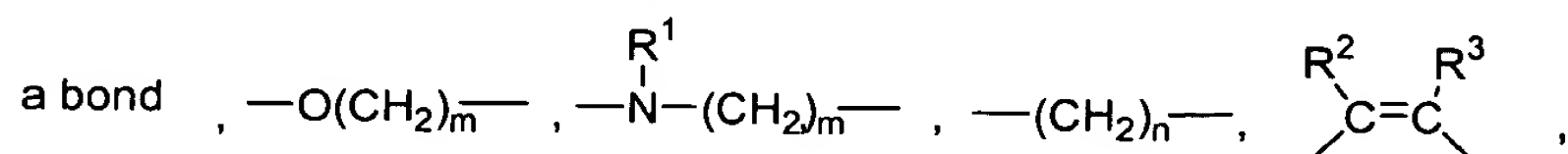
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3 A-X-M-Y-B

4 or a pharmaceutically acceptable salt thereof, wherein

5 A and B are each members independently selected from the group consisting of
6 substituted and unsubstituted aryl and substituted and unsubstituted
7 heteroaryl;

8 X and Y are each members independently selected from the group consisting of:



9
10 with the proviso that at least one of X or Y is a bond, and wherein

11 the subscript m is 0, 1 or 2;

12 the subscript n is 1 or 2;

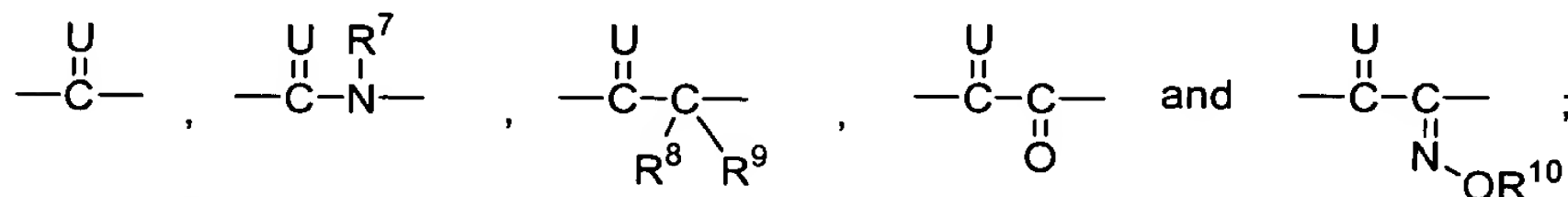
13 W is a member selected from the group consisting of O, N-OR⁵, N-NR¹R²,
14 N-NR¹C(O)R⁶ and N-OC(O)R⁶;

15 R¹, R², R³ and R⁵ are each members independently selected from the group
16 consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and
17 heteroaryl(C₁-C₆)alkyl;

18 R⁴ is a member selected from the group consisting of H, OH, (C₁-C₆)alkyl,
19 (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino,
20 (C₁-C₆)acylamino, and (C₁-C₈)heteroalkyl; and

21 R⁶ is a member selected from the group consisting of H, (C₁-C₆)alkyl, (C₁-
22 C₆)alkoxy, amino, (C₁-C₆)alkylamino, di(C₁-C₆)alkylamino and
23 (C₁-C₈)heteroalkyl; and

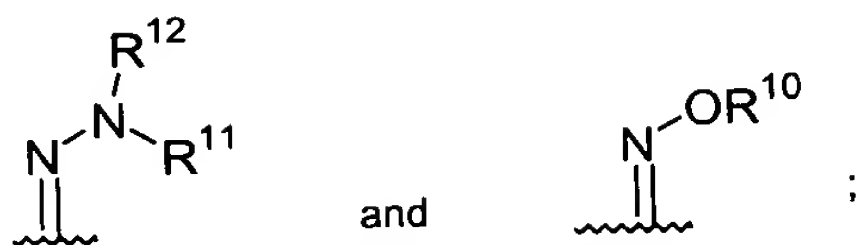
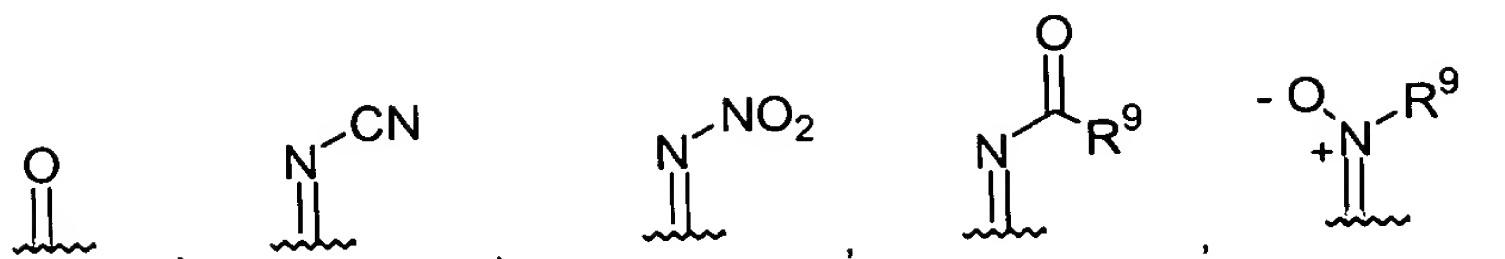
24 M is a divalent linking group selected from the group consisting of:



25
26 wherein

27 U is a member selected from the group consisting of:

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R^7 and R^8 are each members independently selected from the group

consisting of H, OH, (C₁-C₆)alkyl, (C₁-C₆)alkoxy, amino, (C₁-C₆)alkylamino and di(C₁-C₆)alkylamino;

R^9 is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl, aryl(C₁-C₆)alkyl, heteroaryl and heteroaryl(C₁-C₆)alkyl;

R^{10} is a member selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl and heteroaryl(C₁-C₆)alkyl; and

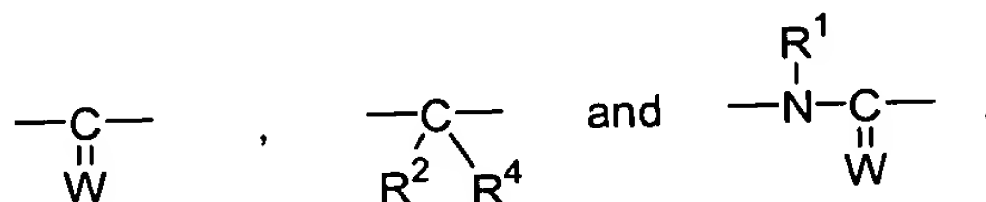
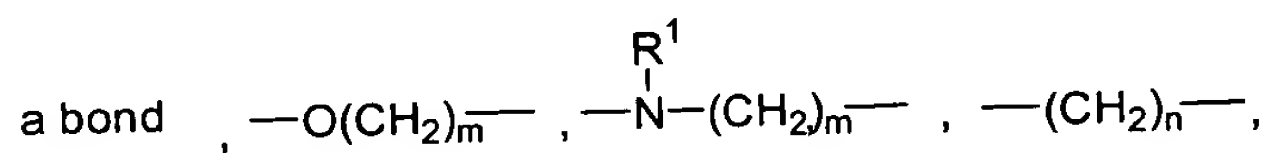
R^{11} and R^{12} are members independently selected from the group consisting of H, (C₁-C₆)alkyl, aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl, C(O) R^{14} , C(O)OR¹⁴, C(O)-NR¹⁴R¹⁵, S(O)₂R¹³ and S(O)₂NR¹⁴R¹⁵;

wherein

R^{13} is a member selected from the group consisting of (C₁-C₆)alkyl, (C₁-C₆)heteroalkyl, phenyl and substituted phenyl; and

R^{14} and R^{15} are each members independently selected from the group consisting of H, (C₁-C₆)alkyl and (C₁-C₆)heteroalkyl.

26. A composition in accordance with claim **25**, wherein X and Y are independently selected from the group consisting of:



27. A composition in accordance with claim **25**, wherein X and Y are each independently selected from the group consisting of:

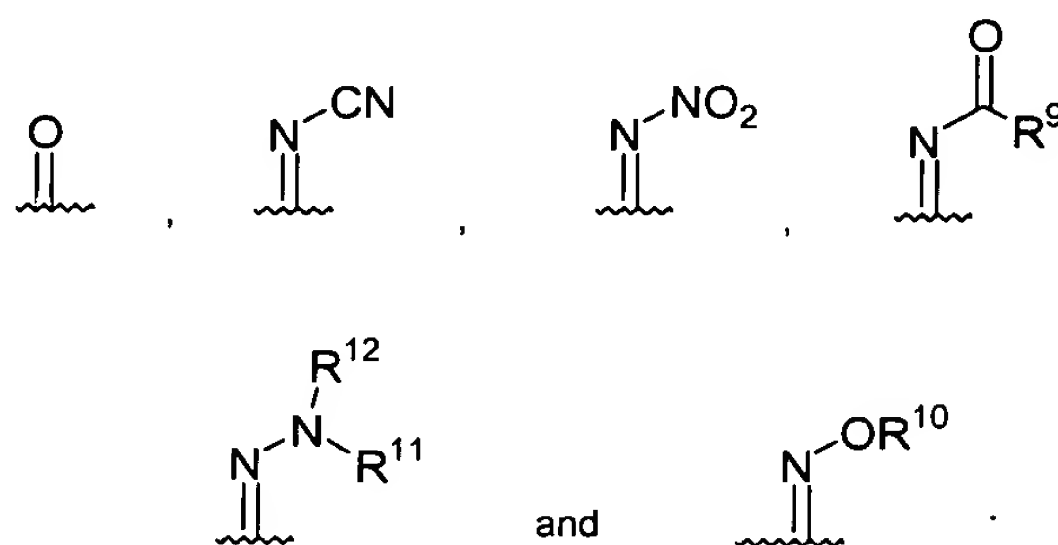
a bond , $\text{—}\overset{\text{C}}{\underset{\text{W}}{\parallel}}\text{—}$ and $\text{—}\overset{\text{C}}{\underset{\text{R}^2}{\underset{\text{R}^4}{\diagdown}}}\text{—}$.

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28. A composition in accordance with claim 25, wherein X and Y are

2 each a bond, and M is $\text{—}\overset{\text{U}}{\parallel}\overset{\text{R}^7}{\text{N}}\text{—}$, wherein U is selected from the group consisting of

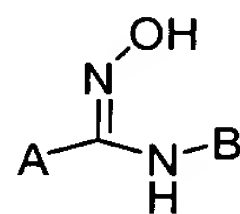


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29. A composition in accordance with claim 25, said compound having

2 the formula:



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30. A composition in accordance with claim 29, wherein A is a phenyl

2 group substituted with from one to three substituents selected from the group consisting

3 of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, nitro,

4 phenyl, naphthyl, pyrrolyl, pyrazolyl and $\text{—NR}^{16}\text{R}^{17}$ wherein R¹⁶ and R¹⁷ are

5 independently selected from the group consisting of hydrogen, (C₁-C₈)alkyl and (C₁-

6 C₈)heteroalkyl or are combined with the nitrogen atom to which each is attached to form

7 a four-, five-, six- or seven-membered ring optionally having additional heteroatoms as

8 ring members and optionally having additional substituents selected from the group

9 consisting of (C₁-C₈)alkyl, (C₁-C₈)heteroalkyl and phenyl.

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31. A composition in accordance with claim 29, wherein B is a phenyl

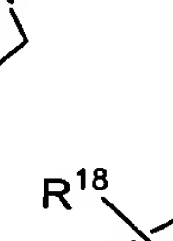

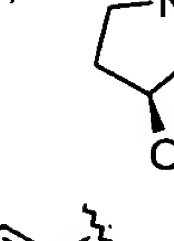

2 group substituted with from one to three substituents selected from the group consisting

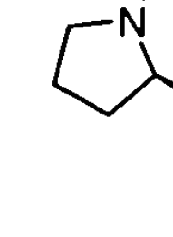
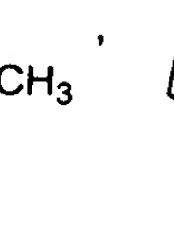
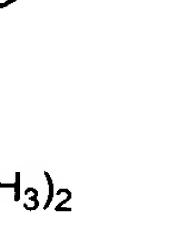
3 of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy,

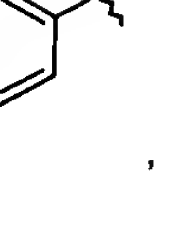
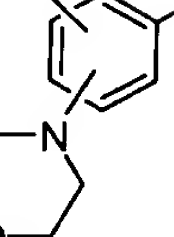
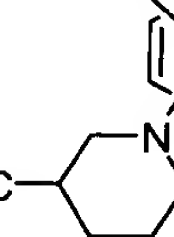
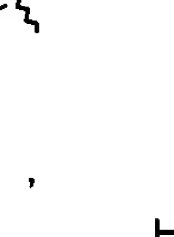
4 halogen, phenyl and phenoxy.

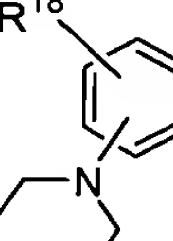

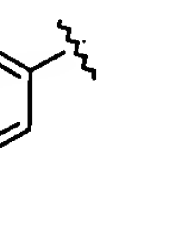
1 32. A composition in accordance with claim 29, wherein A is a phenyl
2 group substituted with from one to three substituents selected from the group consisting
3 of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen and –
4 NR¹⁶R¹⁷ wherein R¹⁶ and R¹⁷ are independently selected from the group consisting of
5 hydrogen, (C₁-C₈)alkyl and (C₁-C₈)heteroalkyl or are combined with the nitrogen atom to
6 which each is attached to form a four-, five-, six- or seven-membered ring optionally
7 having additional heteroatoms as ring members and optionally having additional
8 substituents selected from the group consisting of (C₁-C₈)alkyl, (C₁-C₈)heteroalkyl and
9 phenyl, and B is a phenyl group substituted with from one to three substituents selected
10 from the group consisting of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-C₄)heteroalkyl, (C₁-
11 C₄)haloalkyl, (C₁-C₄)haloalkoxy, halogen, phenyl and phenoxy.

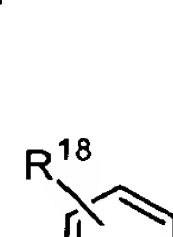
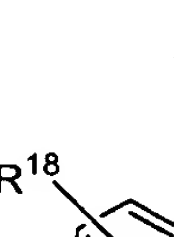
1 33. A composition in accordance with claim 29, wherein A is selected
2 from the group consisting of substituted or unsubstituted thienyl, substituted or
3 unsubstituted furanyl, substituted or unsubstituted indolyl, substituted or unsubstituted
4 benzothienyl, substituted or unsubstituted benzothienyl, and radicals of the formulae:


 and
 
 ;

5 wherein

6 R^{18} is a member selected from the group consisting of (C₁-C₄)alkyl, (C₁-C₄)alkoxy, (C₁-

7 C₄)heteroalkyl, (C₁-C₄)haloalkyl, (C₁-C₄)haloalkoxy and halogen.

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